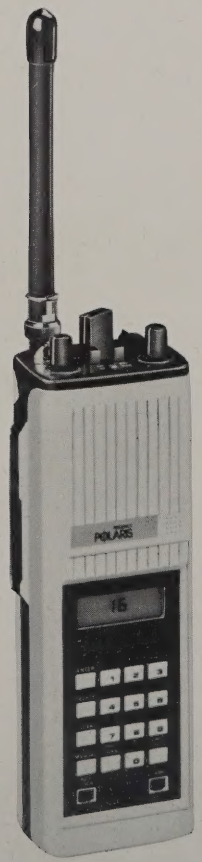
Regency Polaris MT 1000 Owners Manual

317-545-4281



REGENCY POLARIS®

- Keyboard Programmable Hand-Held VHF Transceiver
- All Channel Capability
- Three Scanning Modes
- High Visibility Liquid Crystal Display
- Covers 10 Weather Channels

TABLE OF CONTENTS

GENERAL DESCRIPTION

Your **Polaris MT 1000** is a keyboard programmable, microcomputer-controlled, all solid state compact hand-held FM radiotelephone providing all U.S. and International transmit and receive channels in the VHF marine band as assigned by the International Telecommunications Union. The unit employs state of the art circuitry and a sealed rubber keyboard which enables you to select any channels in both U.S. and International marine bands without adding any crystals — all channels installed.

The **Polaris MT 1000** is designed for hand-held use on commercial or pleasure boats and will provide years of reliable service with ordinary care since protection against severe environmental condition has been provided by use of carefully selected parts and rust-proof, corrosion-resistant materials where necessary.

The unit features adjustable squelch control which can be used to silence the receiver when no signals are being received, High-Low transmitting power switch, Dual Priority mode switch, LCD display, Keyboard lock switch, Lithium memory battery, Volume Control, Display lamp switch, U.S.A. — International Channel selection switch and connectors for external speaker/ microphone which allow easy operations.

Before operating the radio telephone, you must obtain your license. It is illegal to transmit without the appropriate license which can be obtained by submitting completed FCC Form 506 and 753 to the FCC. Furthermore you are required to understand Part 83 of the FCC Rules and Regulations prior to operation of your radiotelephone. It is the user's responsibility to see that this unit is operating at all times in accordance with the FCC Rules and Regulations.

BATTERY INSTALLATION

Battery

The battery pack, provided as a standard accessory, should be recharged for about three hours or more before use, since it may have partly discharged in shipping.

Battery Installation

1. The battery compartment is located on the rear of the unit. To remove the compartment cover, slide back the compartment door. Refer to Fig. 1.
2. Be sure the power switch is in the OFF position.
3. Connect the 3-pin female battery power connector to the matching male connector provided on the top side of battery compartment. Do not attempt to force the connector onto the pin, it will slip on easily when it is properly aligned. Refer to Fig. 2.
4. Insert the battery pack into the compartment, and reinstall the cover.

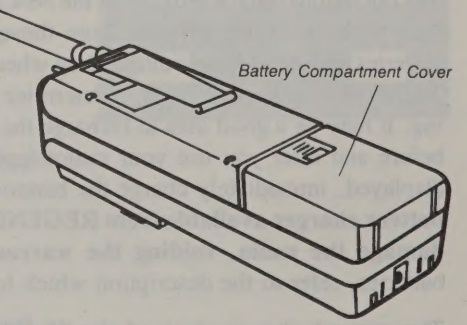


Fig. 1 Removing Battery Cover

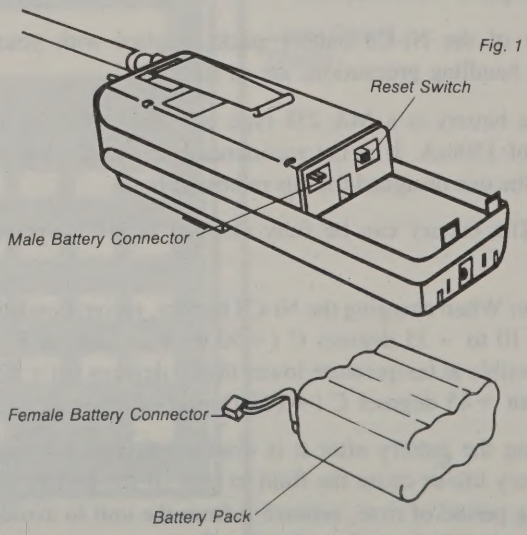


Fig. 2 Connecting Battery Connector

IMPORTANT: IF ANY PROBLEMS OCCUR DURING OPERATION, THE UNIT MAY BE RESET USING THE RESET SWITCH (FIGURE 2.) TO RESET, SIMPLY SLIDE THE SWITCH TO THE RESET POSITION (RIGHT) FOR APPROXIMATELY 15 SECONDS, THEN RETURN THE SWITCH TO THE NORMAL POSITION (LEFT).

Battery Charging

The operational characteristics of the Ni-Cd batteries used in the battery power pack under load are different from those of conventional non-rechargeable batteries and show rapid voltage drop when they discharge almost completely. Therefore, it is very difficult to determine when the batteries require recharging. It may be a good idea to recharge the batteries for a few hours each time before and after you use your radiotelephone, or if the battery indicator is displayed, immediately charge the batteries. **To charge the batteries use a battery charger available from REGENCY. Use of any other charger may damage the radio, voiding the warranty.** For further details on Ni-Cd batteries, refer to the description which follows.

The general characteristic of the Ni-Cd battery pack supplied with your radiotelephone and proper handling precautions are as follows.

1. **Charging Current:** The battery is a MA 258 type, which can handle a large charging current of 150mA. It is not recommended that you use a battery pack other than the one designed for this radiotelephone.
2. **Continuous Charge:** The battery can be fully charged in six hours at 150mA.
3. **Charging Temperature:** When charging the Ni-Cd battery, recommended temperature range is +10 to +35 degrees C (+50 to +95 degrees F). Charging will not be possible at temperature lower than 0 degrees C (+32 degrees F) or higher than +45 degrees C (+113 Degrees F).
4. **Overdischarge:** Running the battery after it is discharged almost completely may reduce battery life or cause the fluid to leak. If the battery is not to be used for a long period of time, remove it from the unit to avoid possible damage to the radiotelephone from leaking fluid.
5. **Life Expectancy:** The battery should last for more than 300 charging cycles when properly used. It has a natural life of three to five years.
6. **Special Precautions:**
   a. Be sure to use only the charger unit which will be supplied as a standard accessory.
   b. Be certain the polarity is correct while charging.
   c. Do not solder anything directly to the battery.
   d. Do not dispose of the battery in fire.

OPERATING CONTROLS AND FUNCTIONS

1) Antenna Connector (BNC)

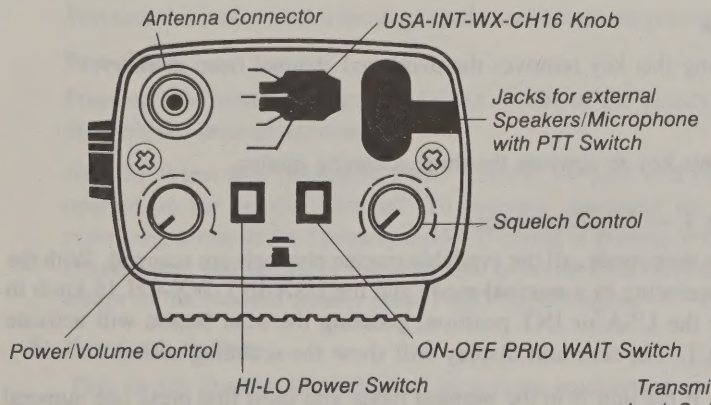
This connector accepts the "rubber helical" antenna supplied with the unit as the standard accessory. Do not use any other antenna since improper impedance matching may cause reduction in effective communication range, increase of spurious radiation, and excessive battery drain.

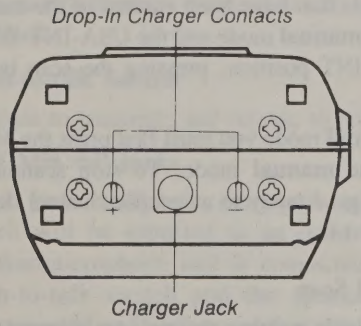
2) Power/Volume Control

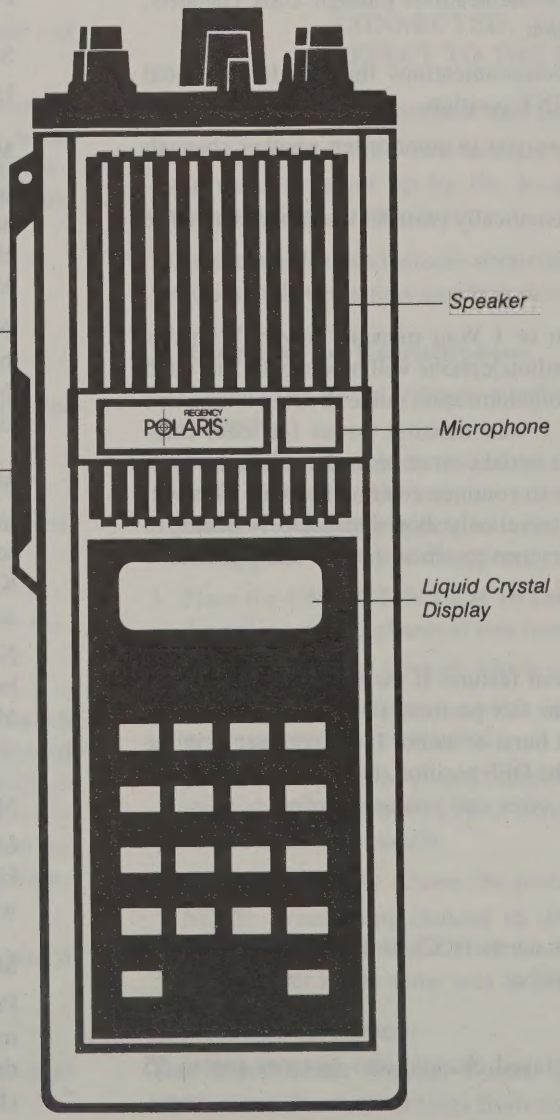
When the switch is in fully counterclockwise position, the power is off. Rotating the switch clockwise will turn the power on; further rotation will increase the sound volume from the built-in speaker.

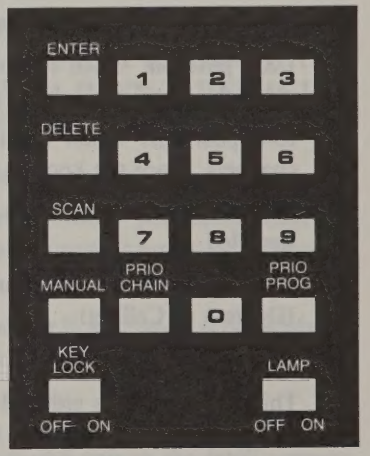
3) Squelch Control

This control is used to eliminate annoying background noise when no signal is present. To adjust the Squelch control properly during reception, first turn the knob counterclockwise until background noise is heard. Then rotate the control slowly clockwise until background noise just disappears. At this point, the receiver will be relatively quiet under no signal condition, but an incoming signal will overcome the squelch action and be heard. Since this control is variable it can be used to provide varying degrees of sensitivity to incoming signals. As the control is advanced from the extreme counterclockwise position, the squelch action is progressively increased and stronger signals are needed to overcome it. To receive extremely weak signals or to disable the squelch circuit, simply turn the control fully counterclockwise.









CAUTION: The rubber plug for the external power jack it to be inserted in only one way. There is a flat spot on side of the plug to give clearance for the positive contact of the external power jack. Take care to insert the rubber plug with the flat spot next to the positive contact. It is also appropriate to insert the plug with its small tab pointing to the plus sign of the drop-in charger contacts. The internal battery pack will be disconnected by inserting it in any other way.

4) USA-INT-WX-CH 16 Knob

USA position: When making communications through USA channels, place the knob in the USA position.

INT position: When making communications through International channels, place the knob in the INT position.

WX position: This position allows you to monitor ten weather channels installed.

CH 16 position: This position automatically switches the unit to channel 16 (Distress & Calling).

5) HI-LO Power Switch

This switch selects either 3 Watt or 1 Watt transmit power. With this switch in the "HI" position the radiotelephone will produce the full rated transmit power (3W) for longer communication range. Setting this switch to "LO" position will produce 1 watt transmit power for local communication. It is suggested that the initial contact be made with high power and then switched to lower power to continue communications. This will be possible when the signal must travel only short distances. Switching to low power will cause less interference to other stations using the same frequency and extend battery life.

6) ON-OFF, PRI WAIT Switch

This switch selects the priority wait feature. If the receiver is in the priority mode, and the switch is in the ON position, the unit will respond to priority calls by sounding a short burst of audio. If the receiver is in the priority mode, and the switch in the OFF position, the unit will respond to priority calls by interrupting any other call you are hearing.

7) Keyboard Buttons

0-9

Use these buttons to select channel numbers. Channels 1 through 9 require pressing 0 before the channel number.

Enter

Pressing this key enters the displayed channel into memory (up to 55 channel memory)

Delete

Pressing this key removes the displayed channel from memory.

Scan

Use this key to activate the three scanning modes.

Mode 1 — All channel scan

In this scan mode, all the available marine channels are scanned. With the unit operating in a **normal** mode and the USA-INT-WX-CH 16 knob in either the USA or INT position, pressing the scan button will activate Mode 1. The tens unit display will show the scanning action.

Note: If the unit is in the **manual** mode you must first press one numeral button (e.g. 1) to put the unit in the **normal** mode. To stop scanning, press MANUAL or a numeral. To go directly to a specific channel, key in that channel, e.g. 1,4 for channel 14.

Mode 2 — Memory Channel Scan

In this mode only the channels that have been entered in the memory are scanned. With the unit in the **manual** mode and the USA-INT-WX-CH 16 Knob in either the USA or INT position, pressing the scan button will activate Mode 2.

Note: If the unit is in the **normal** mode you must first press the MANUAL button to put the unit in the **manual** mode. To stop scanning, press MANUAL or a numeral. To go directly to a specific channel, key in that channel e.g. 1,4 for channel 14.

Mode 3 — Weather Channel Scan

In this mode only the 10 available weather channels are scanned. With the USA-INT-WX-CH 16 knob in the WX position, pressing the scan button will activate Mode 3.

Manual

Pressing this button puts the unit in the manual mode on the lowest numeral memory channel. Repeated pressing of the manual button will step through the channels in the memory. To go directly to a specific channel, key in that channel, e.g. 1,4 for channel 14.

Prio-Prog

Pressing this button enters the displayed channel into the priority memory.

Prio-Chan

Pressing this button toggles the unit in or out of the prioity mode and displays the priority channel.

NOTE: When you first press PRIO CHAN, the unit will continuously operate on the priority channel. To continue operating the unit while remaining in one of the 2 priority modes (Normal or Priority Wait), key in a channel that you normally use after first pressing PRIO CHAN. To then return to the Normal Mode, press PRIO CHAN again.

8) Key Lock Switch

This switch disables the keyboard to prevent inadvertant entries.

9) Lamp Switch

This switch activates a sidelight for the Liquid Crystal Display panel and automatically turns off after 15 seconds.

10) Transmitter Lock Switch

This switch disables the push to talk switch to prevent inadvertant transmissions.

11) Push-to-talk Switch

Depress to transmit, and release to receive.

12) PTT MIC/SP Jacks

These jacks accept the external speaker/microphone with PTT switch which will be supplied as an optional accessory. When the external speaker/microphone unit is connected to these jacks, both the built-in push-to-talk switch and the speaker/microphone are automatically disconnected and perform no functions. The PTT switch provided on the external speaker/microphone controls the transmit and receive operation.

13) Charger Jack

This jack accepts the battery charger jack for recharging the Ni-Cd batteries installed.

14) Drop-in-Charger Contacts

The Ni-Cd batteries installed can also be recharged with an optional drop-in-Charger through these contacts.

OPERATING RADIOTELEPHONE

IMPORTANT: DO NOT ATTEMPT TO TRANSMIT WITHOUT AN ANTENNA OR AN IMPROPER ANTENNA CONNECTED. THIS MAY HAVE A DAMAGING EFFECT TO THE RF POWER TRANSISTOR

A. Radiotelephone Transmit and Receive Operation

Before operating the radiotelephone transmitter, you must meet all requirements as set up by the local government agency in charge of communications in your country.

In most countries this includes obtaining a proper license and having access to the rules and regulations covering this type of equipment.

B. Operating the Radiotelephone

1. Connect the rubber antenna supplied with the unit to the BNC antenna connector.
2. Turn the radiotelephone on and raise the Volume control until back ground noise is heard. Be sure to turn the Squelch control to its fullest counterclockwise position initially. Then turn the knob clockwise until background noise just disappears.
3. Place the USA-INT-WX-CH 16 knob in either the USA or INT position, depending on the channesl you intend to use.
4. Select the channel through which you want to communicate.
5. Place the HI-LO power switch in the HI position initially until your communication is established.
6. To transmit, press the push-to-talk switch on the left side of the cabinet, and speak slowly and clearly in your normal tone with the microphone about two inches from your mouth.
7. To receive, simply release the push-to-talk switch.

   NOTE: When using channel 16 (Distress and Calling), simply place the USA-INT-WX-CH 16 knob in the CH16 position and operate the unit in the same way as just described above.

C. Weather Reception

The United States Weather Bureau and other countries broadcast official weather and disaster warnings from certain locations on various frequencies.

This radiotelephone is capable of receiving these transmissions in ten channels as listed in the table of "Channels and Frequencies Installed".

1. Place the USA-INT-WX-CH 16 knob in the WX position.
2. Press SCAN or MANUAL to locate local weather station.

D. Proper Radio Communications Procedure

a. Do not shout into the microphone. Speak in a normal tone with your mouth about 2 inches from the microphone.

b. Do not use the radiotelephone except for meaningful communications. Keep transmissions as short as possible.

c. Listen to a channel before transmitting on it. You may be interrupting important communications.

d. Always identify your boat by giving its call sign and name at the beginning and end of each message.

e. Keep a log book of all distress, emergency, navigation, and safety type of information. Note the date, time, call letters and names of all ships involved and the content of message. The log book should be signed by the person making entries.

f. It is against the law to use profane or obscene comments on the radio. Remember you are transmitting on party line.

SPECIFICATIONS

RECEIVER SECTION

Frequency range: 156.00-163.00MHz
Channels installed: Refer to "Installed Channels and Frequencies" chart in this manual.
Sensitivity: Better than 0.3uV SINAD, 0.35uV NQ
Hum and Noise: Better than 40 dB at 1mW RF input
Spurious rejection: Less than −60dB
Intermodulation Rejection: 50dB
Adjacent channel Rejection: 65dB
Squelch sensitivity: Threshold; less than 0.15uV
Tight; 0.5 to 1uV
Audio power output: 0.2W to 8 ohm, 10% distortion

TRANSMITTER SECTION

Frequency range: 156.00-157.5MHz
Channels installed: Refer to "Installed Channels and Frequencies" chart in this manual.
RF Output power: 3W and 1W switchable
Modulation: 16F3
Maximum modulation: ±5kHz
Frequency stability: Within ±0.001%
Hum and Noise: Better than 40 dB
Spurious and Harmonic Emission: Less than −60 dB
Microphone Sensitivity: 3 mV at 70% modulation
Microphone: Electret type

GENERAL

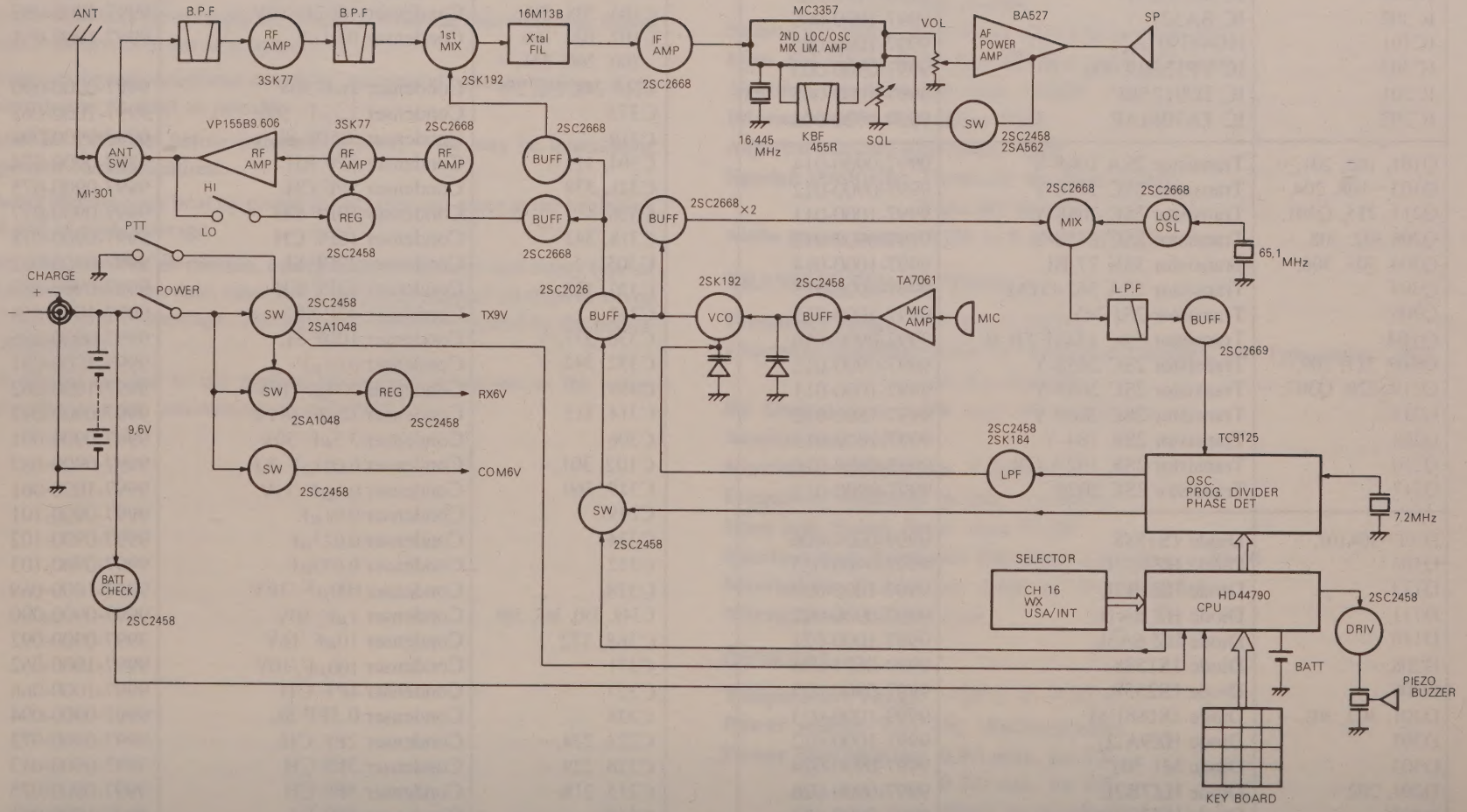
Temperature range: −20° C to +50° C
Power source: 9.6V DC (Rechargeable)
Power consumption: 0.9A max. for TX
0.2A max. for RX
30mA for standby

REPLACEMENT PARTS — MT 1000

Symbol No.	Description	Part No.
IC102	IC M51204	9997-1000-004
IC301	IC MC3357P	3130-3193-525
IC302	IC BA527	9997-1000-006
IC101	HD44790 A72	9997-1000-008
IC303	IC VP155B9.606	9997-0900-005
IC201	IC TC9125BP	9997-1000-005
IC202	IC TA7061AP	9999-0020-002
Q101, 102, 201,···	Transistor 2SA 1048-Y	9997-0900-014
Q103～108, 204,···	Transistor 2SC 2458-Y	9997-0900-012
Q211, 215, Q301,···	Transistor 2SC 2668-Y	9997-1000-011
Q206,302, 308,···	Transistor 2SC 2458-Y	9997-0900-012
Q304, 305, 306,···	Transistor 3SK 77-BL	9997-1000-014
Q309	Transistor 2SA 562-OTM	9997-0900-015
Q303	Transistor 2SJ 74Y	9997-1000-015
Q104	Transistor 2SC 1545FTR-B	9997-0900-016
Q310, 311, 209,···	Transistor 2SC 2458-Y	9997-0900-012
Q219, 220, Q307,···	Transistor 2SC 2668-Y	9997-1000-011
Q214	Transistor 2SC 2669-Y	9997-1000-012
Q208	Transistor 2SK 184-Y	9997-1000-013
Q210	Transistor 2SK 192A-GR	9997-0900-016
Q217	Transistor 2SC 2026	9997-0900-013
D101～104,109,···	Diode 1S1588	9999-0604-006
D105	Diode HZ7C3L	9997-0900-023
D113	Diode HZ7B3L	9997-1000-020
D111	Diode HZ 6A1L	9997-0900-022
D110	Diode HZ 6A3L	9997-1000-021
D208,···	Diode 1S1588	9999-0604-006
D306	Diode 1S2558	9997-0900-025
D301, 302, 305,···	Diode 1S188FM	9999-1000-023
D307	Diode HZ9A2L	9997-1000-022
D303	Diode M1 301	9997-0900-024
D201, 202	Diode HZ7B2L	9997-0900-026
D203	Diode HZ7C3L	9997-0900-023
D308,···	Diode 1S1588	9999-0604-006
D205,206,207	Diode 1SV-50	9997-0900-020

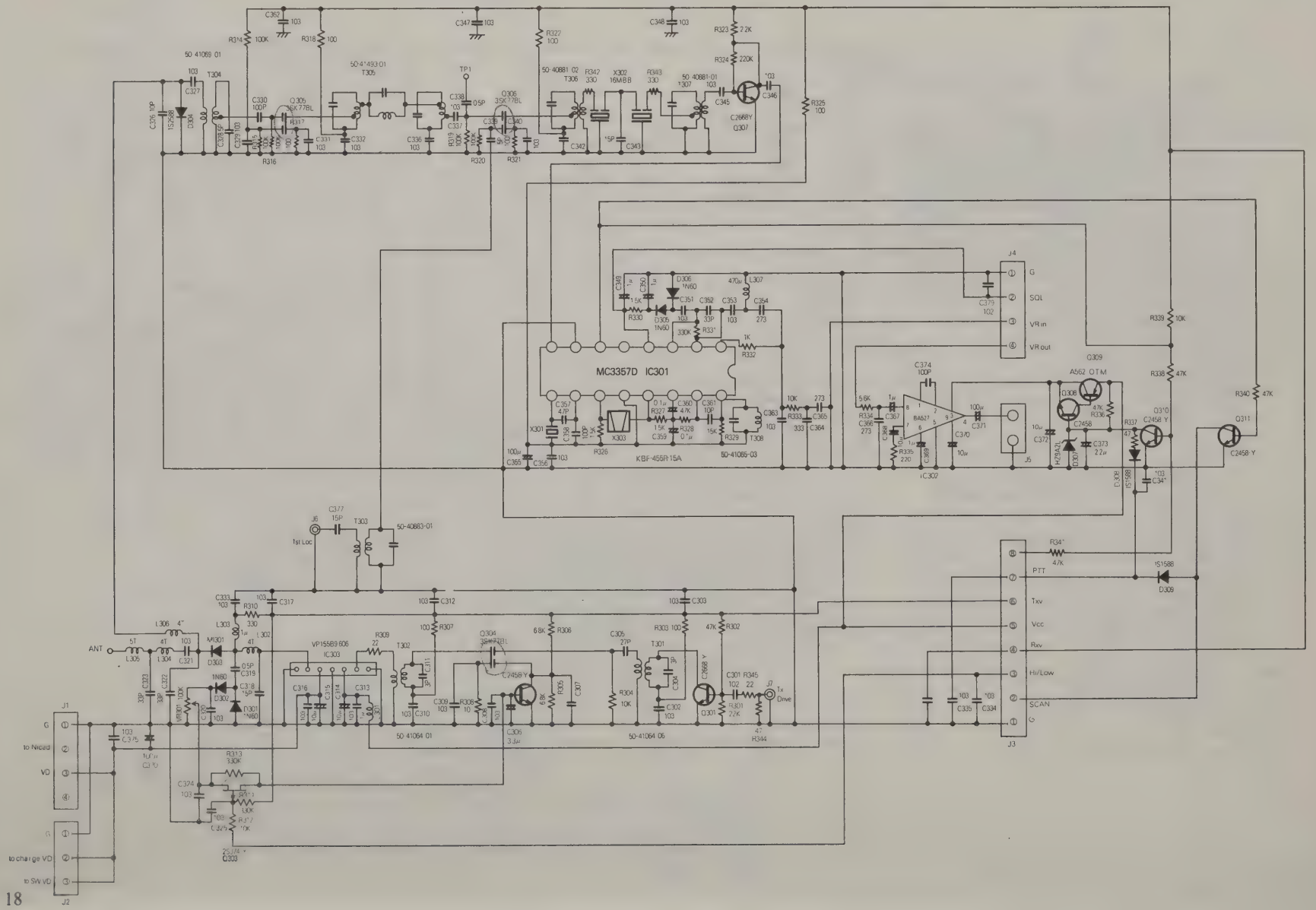
Symbol No.	Description	Part No.
C246	Condenser 0.1μF/50V	9997-1000-060
C101	Condenser 4.7μF/35V	9997-1000-064
C103	Condenser 10μF/16V	9997-0900-092
C105, 208, 216	Condenser 100μF/10V	9997-1000-062
C102, 104, 106 260, 266, 331,···	Condenser 0.01μF	9997-1000-051
C243, 248, 252, 258	Condenser 1μF/50V	9997-0900-090
C373	Condenser 2.2μF/50V	9997-1000-068
C319	Condenser 0.5PF SL	9997-0900-094
C304, 311	Condenser 3PF RH	9997-0900-074
C328, 339	Condenser 5PF CH	9997-0900-075
C326	Condenser 10PF CH	9997-0900-077
C318, 343	Condenser 15PF CH	9997-0900-078
C305	Condenser 27PF SL	9997-0900-082
C322, 323,···	Condenser 33PF CH	9997-0900-080
C357	Condenser 47P SL	9997-1000-058
C330, 377,···	Condenser 100P SL	9997-0900-086
C332, 342,···	Condenser 0.01μF	9997-1000-051
C355	Condenser 100μF/10V	9997-1000-062
C314, 315	Condenser 10μF/16V	9997-0900-092
C306	Condenser 3.3μF/50V	9997-0900-091
C102, 301,···	Condenser 0.001μF YF	9997-0900-087
C359, 360	Condenser 0.1μF/35V	9997-1000-061
C249	Condenser 0.01μF	9997-0900-101
C374	Condenser 0.027μF	9997-0900-102
C212	Condenser 0.033μF	9997-0900-103
C378	Condenser 100μF/16V	9997-1000-069
C349, 350, 367, 369	Condenser 1μF/50V	9997-0900-090
C368, 372	Condenser 10μF/16V	9997-0900-092
C371	Condenser 100μF/10V	9997-1000-062
C227	Condenser 4PF CH	9997-1000-066
C338	Condenser 0.5PF SL	9997-0900-094
C223, 224,···	Condenser 2PF CH	9997-0900-072
C228, 229,···	Condenser 3PF CH	9997-0900-013
C215, 218,···	Condenser 5PF CH	9997-0900-075
C219	Condenser 5PF UJ	9997-1000-052
C261, 262,···	Condenser 6PF RH	9997-1000-053
C237, 267,···	Condenser 8PF RH	9997-1000-054

BLOCK DIAGRAM



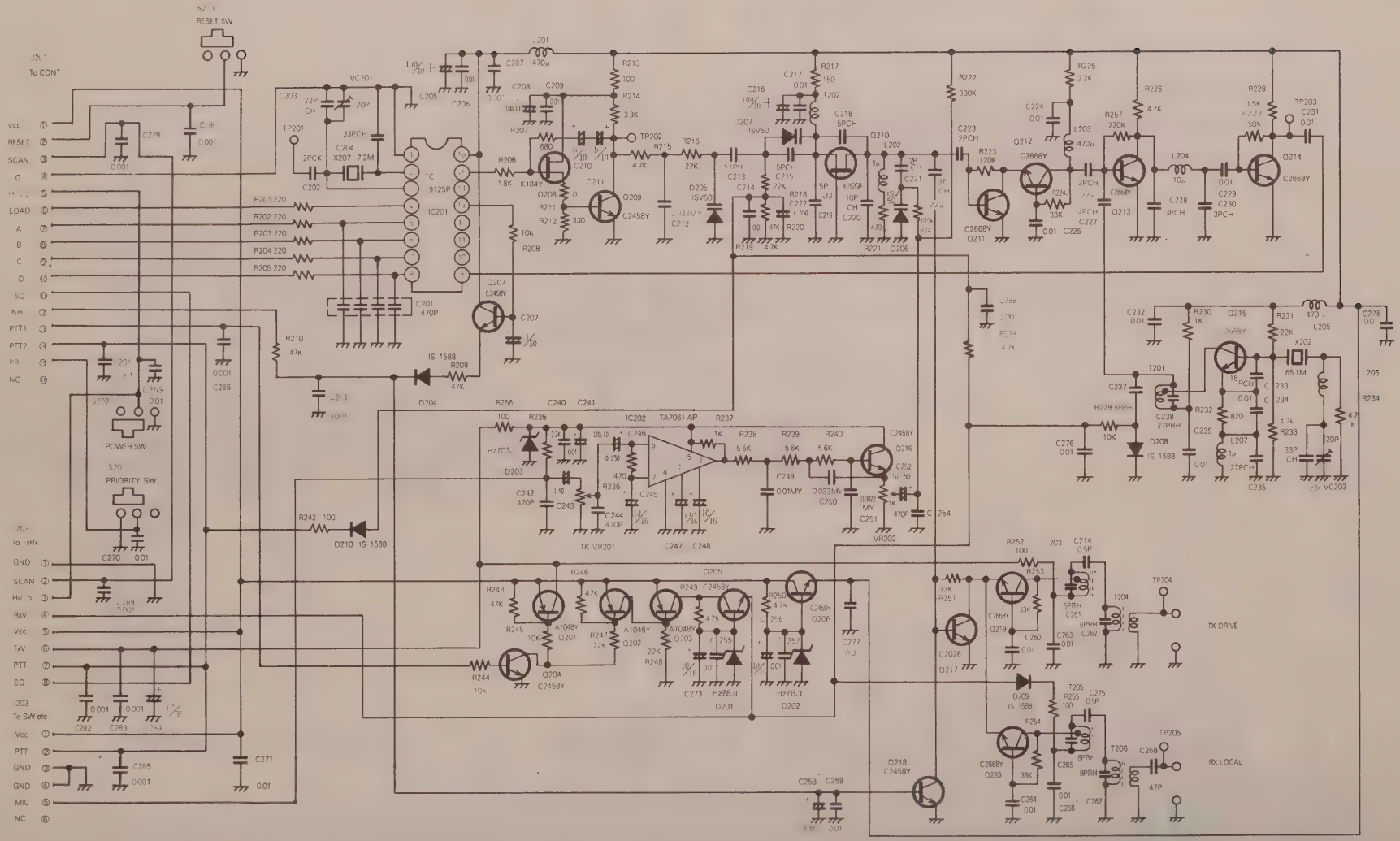
SCHEMATIC DIAGRAM

TX / RX



SCHEMATIC DIAGRAM

PLL



SCHEMATIC DIAGRAM

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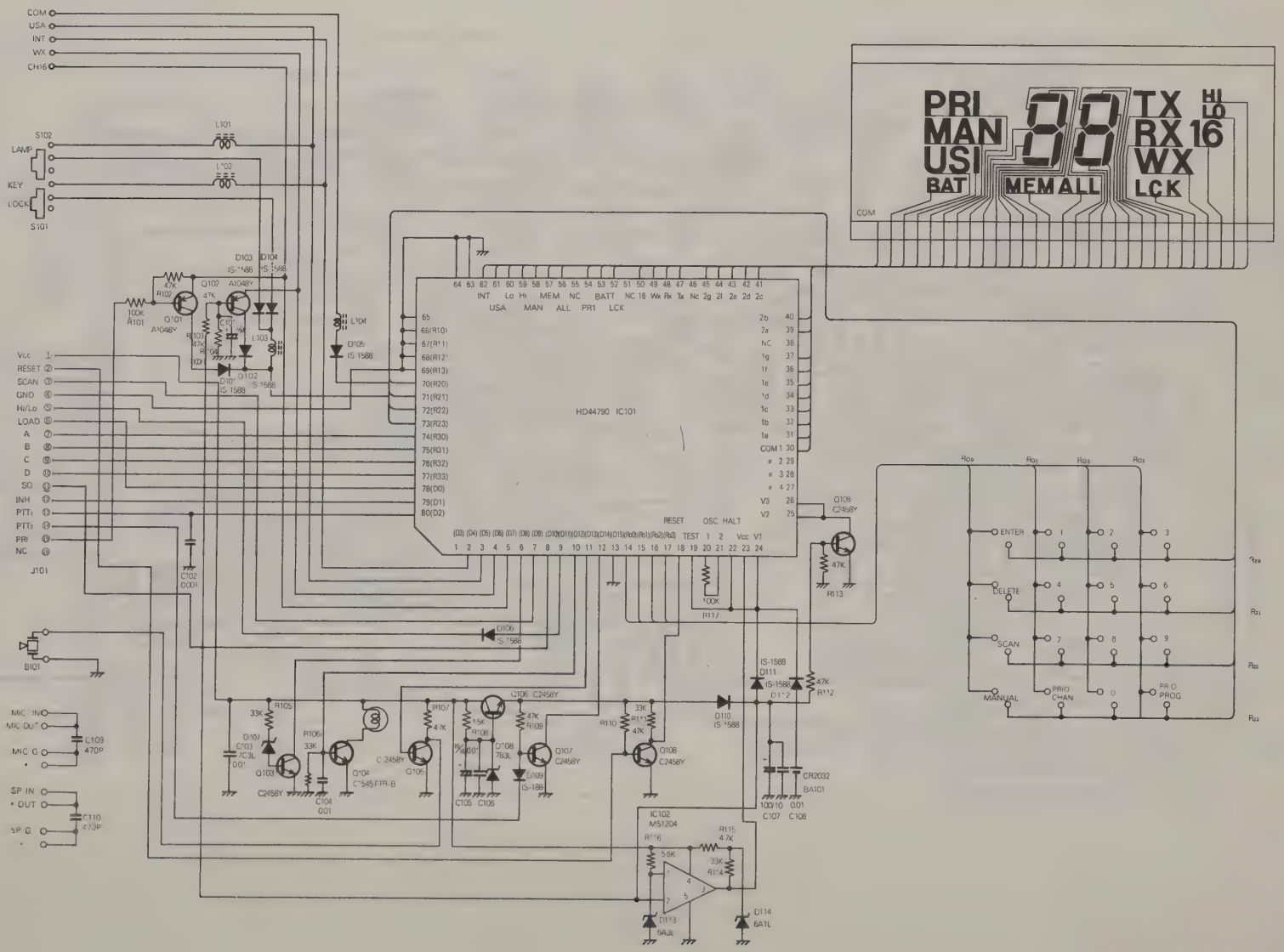
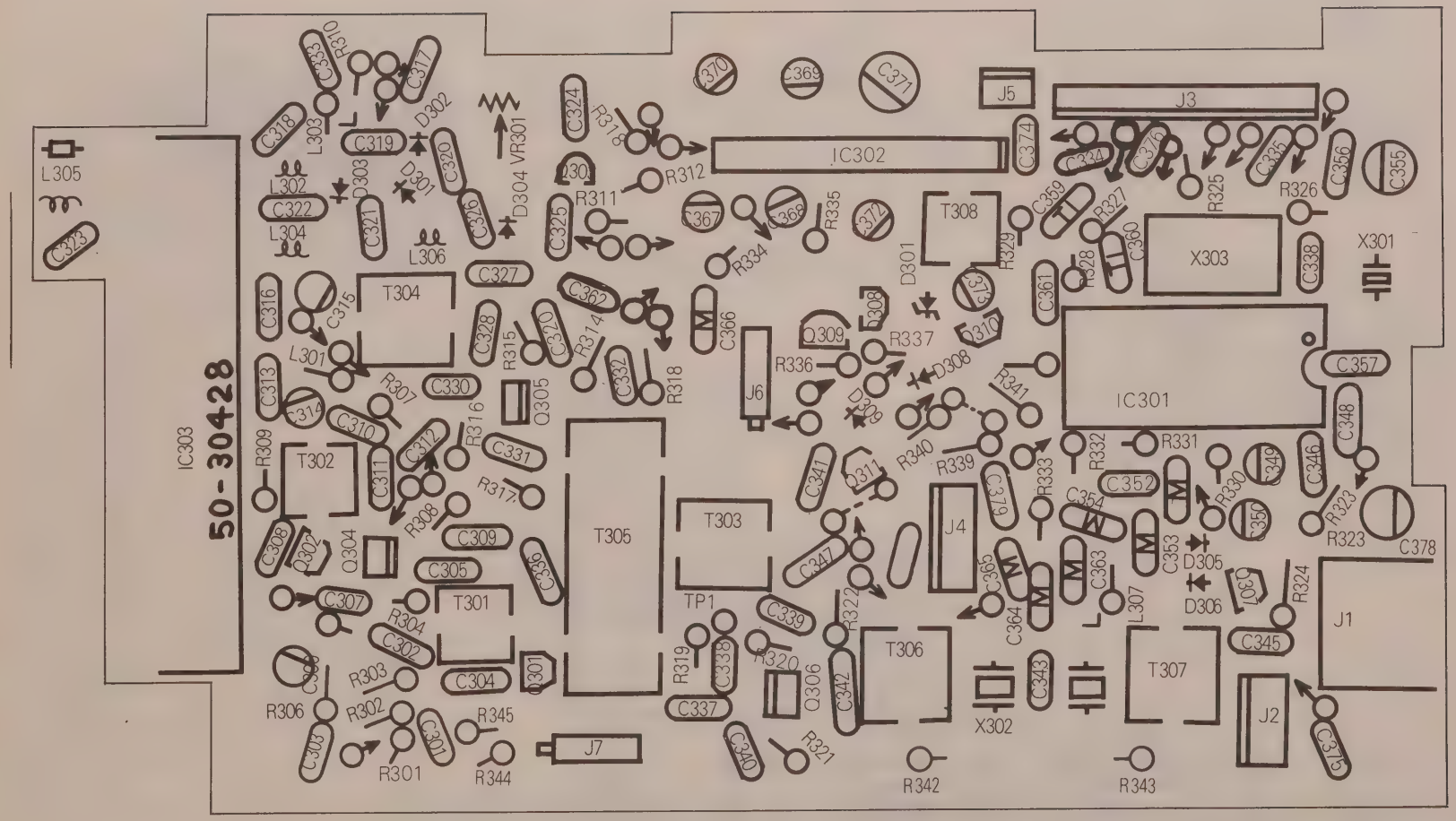
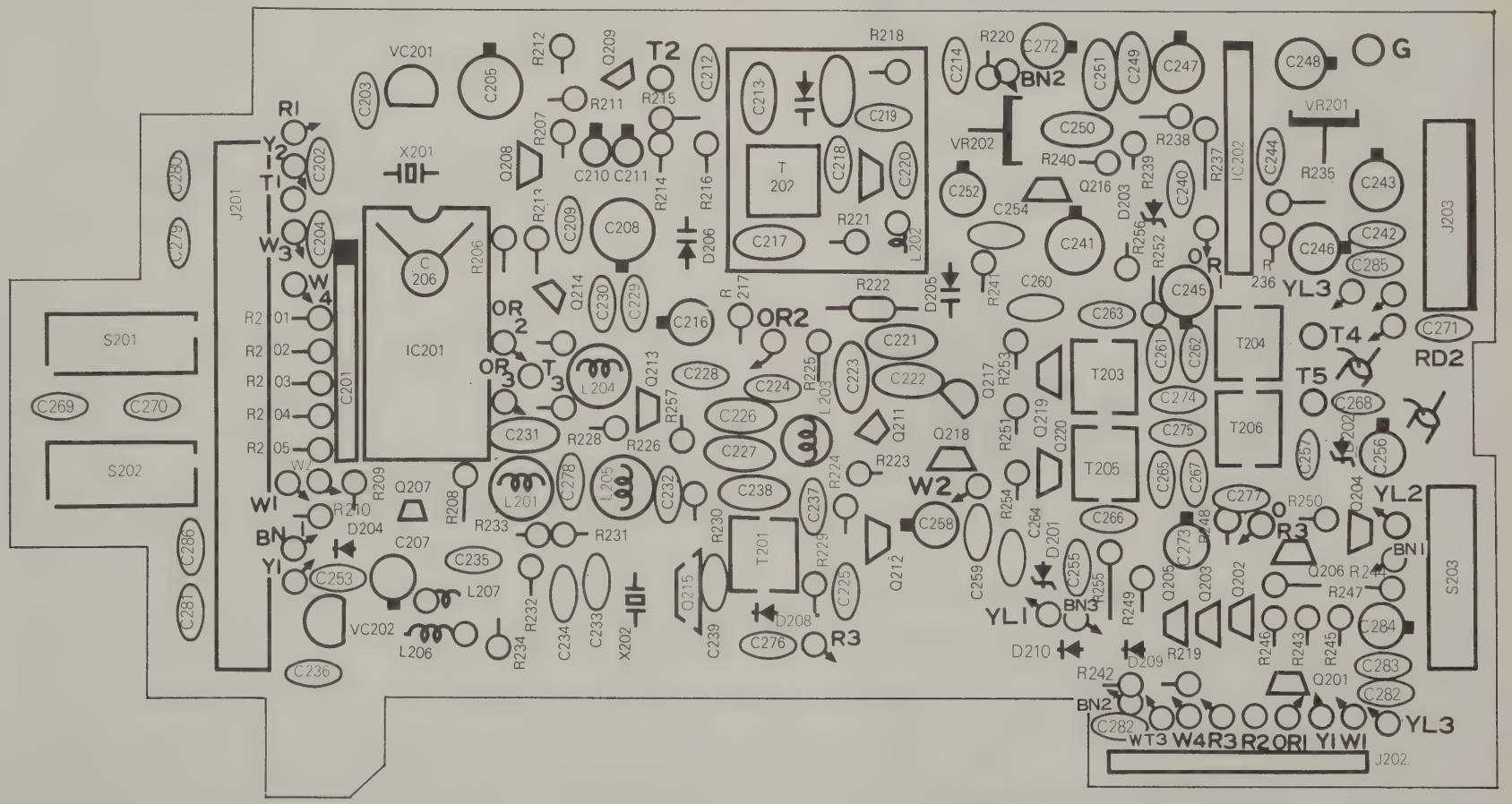


PC BOARD DIAGRAM

TX／RX

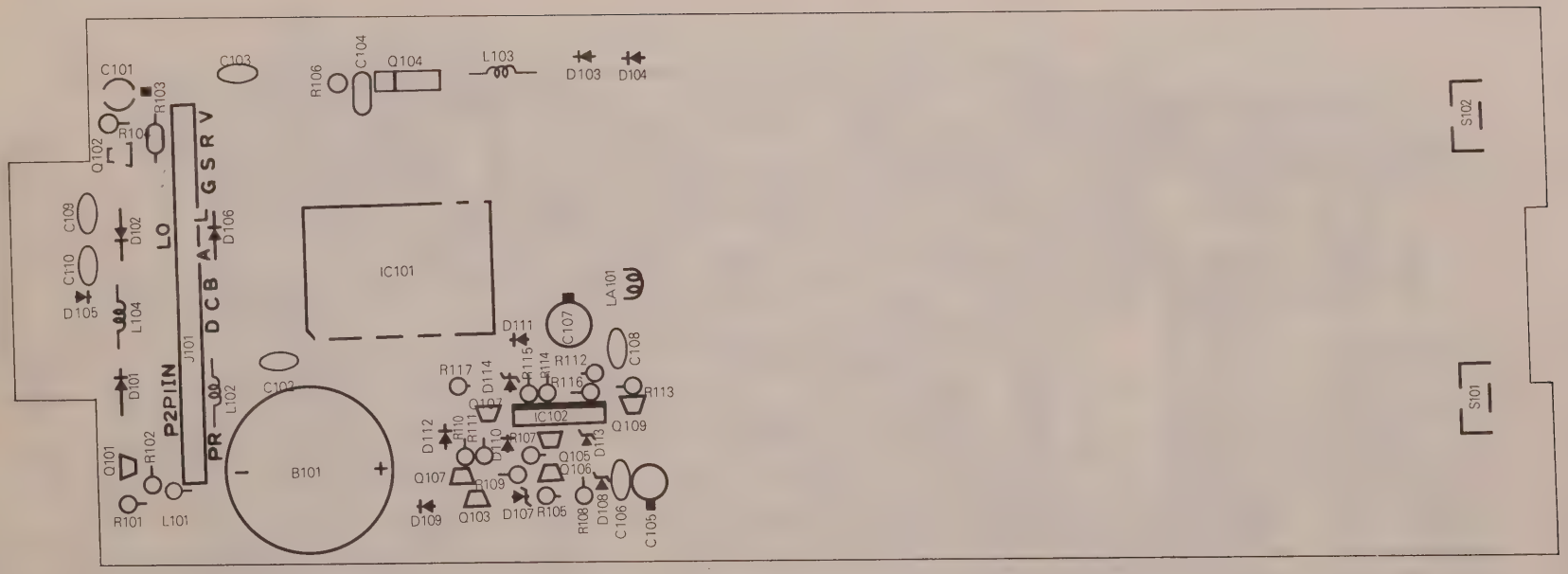


PLL


VC201
X201
IC201
IC202
T204
T205
T206
T203
J201
J202.
J203
S201
S202
S203
VR201
VR202
T2
T3
T4
T5
G
R3
YL1
YL2
YL3
BN1
BN2
BN3
RD2
WT3 W4 R3 R2 OR1 Y1 W1

PC BOARD DIAGRAM

CONT



(5) Level adjustment in TX

Connect spectrum analyzer to TP206.
Set channel selector to channel 16.
Press PTT and adjust T205, 206 to obtain the maximum output level.
The output level is 0dB ±3dB.

(6) Frequency adjustment

Connect spectrum analyzer to TP205.
Set channel selector to channel 88 and adjust V202 until the frequency counter indicates 140.525MHz ±50Hz.

2. Adjustment of mic gain, deviation

When 1KHz of signal is input and the mic input voltage is 3mV, adjust the deviation to 4KHz ±0.5KHz at VR201 (mic gain), and when 30mV, adjust it to 5KHz ±0.5KHz at VR202 (deviation),

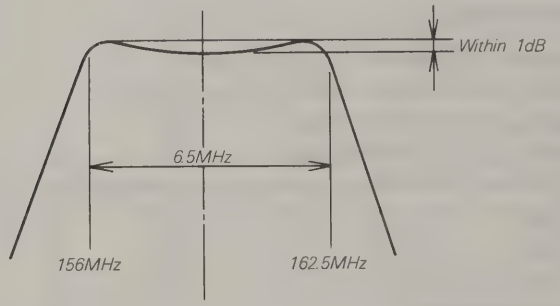
TX / RX

1. Adjustment and check regarding RX

a. Connect output of tracking generator to BNC connector of the main body. Connect spectrum analyzer to TP1 and adjust core location of coils (T304, T305) to obtain following bandwidth.

b. Adjust SG to standard modification frequency)MOD: 1KHz, DEV: 3KHz). Connect SG output to BNC connector and connect 8Ω dummy load to EXT. SP. terminal.
Besides, connect SINAD meter in parallel.

c. Set channel selector to channel 16.
Adjust core location of coils (T303, T308) until the SINAD meter indicates the minimum value.



2. Adjustment and check regarding TX

a. Connect power meter to BNC connector.
Set channel selector to channel 16 and place HI-LO power switch in HI Position.
Press PTT and adjust core location of coils (T301, T302) to obtain the maximum output.

b. Place HI-LO power switch in LO position.
Press PTT and adjust volume (VR301) to obtain 0.8W of output.

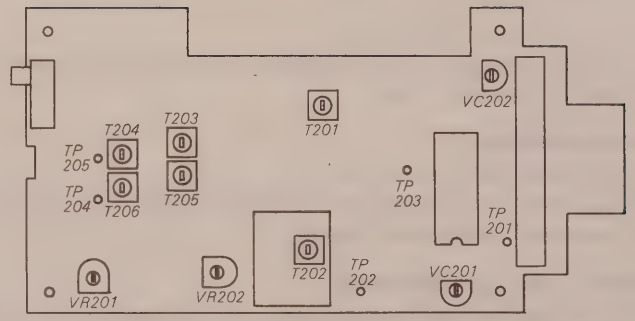
ALIGNMENT PROCEDURES

Important: The FCC requires that any adjustment of the frequency of a radiotelephone must be performed by an authorized person, the holder of a current First or Second Class Radiotelephone License.
The **Polaris MT 1000** has been fully aligned at the factory before shipment to you and does not normally require further adjustment. When necessary, however, the unit may be aligned as indicated below.
It is recommended that you do not try to adjust any circuit in this radiotelephone unless you entirely understand circuit operation and have enough experience in this field of marine radiotelephone and high quality test equipment. Since the radiotelephone is most precise and sophisticated, tampering with the unit may cause upsetting the alignment and lower its performance.

Test Equipment Required

Following equipment are required for the alignment.

1. Regulated DC power supply, 0-12V, 1A or higher
2. Audio Signal generator, 10Hz-20kHz
3. DC voltmeter or Digital Multimeter
4. Frequency counter, 0-250MHz, high input impedance type
5. Deviation meter
6. Oscilloscope
7. RF power meter, 5W
8. Standard signal generator
9. Tracking generator, VHF
10. Distortion analyzer
11. Audio level meter
12. T-coupler, Alignment drivers, etc.



ADJUSTMENT OF PLL BOARD ASS'Y

1. Adjustment of PLL circuit

(1) Adjustment of standard frequency

Adjust VC201 until the frequency counter indicates 7.2MHz ±50Hz at TP201.

(2) Adjustment of amplitude after mix-down

Confirm the PLL circuit is being locked.
Set channel selector to channel 88.
Connect oscilloscope to TP203 and adjust T201 for maximum amplitude in TX.

(3) Adjustment of VCO input voltage

Set channel selector to channel 00.
Conncect ascilloscope to TP202 and adjust T202 to obtain DC voltage reading 1.5V ±0.1V.

(4) Adjustment of bandwidth in RX

Connect spectrum analyzer to TP205 and adjust T203, 204 until output level of channel 00 almost accords with that of WX 1. (The error is within 1dB.)
The output level is −5dBm ±3dB.

COMPREHENSIVE VHF-FM MARINE RADIOTELEPHONE CHANNELS . . . by Designator

OPERATING CHANNEL DESIGNATIONS		FREQUENCY (MHz)		TYPE OF TRAFFIC	FUNCTION	
ORIGINAL	ADDITIONAL	SHIP TX	COST TX		SHIP/SHIP	SHIP/SHORE
1		156.05	160.65	International Only		Yes
2		156.1	160.7	International Only		Yes
3		156.15	160.75	International Only		Yes
4		156.2	160.8	International Only		Yes
5		156.25	160.85	International Only		Yes
6		156.3		SAFETY	Yes	No
7		156.35	160.95	International Only		Yes
7A		156.35	156.35	Commercial	Yes	Yes
8		156.4		Commercial	Yes	No
9		156.45	156.45	Commercial	Yes	Yes
9		156.45	156.45	Non-Commercial	Yes	Yes
10		156.5	156.5	Commercial	Yes	Yes
11		156.55	156.55	Commercial	Yes	Yes
12		156.6	156.6	Port Operations, USCG	Yes	Yes
13		156.65	156.65	Locks, Canals, Pilots	Yes	Yes
14		156.7	156.7	Port Operations, USCG	Yes	Yes
15		156.75	156.75	Environ., Hydrographic	Ship Receive Only	Ship Receive Only
16		156.8	156.8	DISTRESS CALLING	Yes	DISTRESS CALL
17		156.85	156.85	State Control Restricted	No	Yes
18		156.9	161.5	International Only	Yes	Yes
18A		156.9	156.9	Commercial	Yes	Yes
19		156.95	161.55	International Only	Yes	Yes
19A		156.95	156.95	Commercial	Yes	Yes
20		157.0	161.6	Port Operations	No	Yes
21		157.05	161.65	International Only		Yes
21CG		157.05	157.05	USCG Restricted	Yes	Yes
22		157.1	161.7	International Only		Yes
22CG		157.1	157.1	USCG Restricted	Yes	Yes
23		157.15	161.75	International Only		Yes
23CG		157.15	157.15	USCG Restricted	Yes	Yes
24		157.2	161.8	Public Corresp.	No	Yes
25		157.25	161.85	Public Corresp.	No	Yes
26		157.3	161.9	Public Corresp.	No	Yes
27		157.35	161.95	Public Corresp.	No	Yes
28		157.4	162.0	Public Corresp.	No	Yes
	60	156.025	160.625	International Only	Ship Receive Only	Ship Receive Only
	61	156.075	160.675	International Only	"	"
	62	156.125	160.725	International Only	"	"
	63	156.175	160.775	International Only	"	"
	64	156.225	160.825	International Only	"	"
	65	156.275	160.875	International Only	Yes	Yes
	65A	156.275	156.275	Port Operations	Yes	Yes
	66	156.325	160.925	International Only	Yes	Yes
	66A	156.325	156.325	Port Operations	Yes	Yes
	67	156.375	-	Commercial	Yes	No
	68	156.425	156.425	Non-Commercial	Yes	Yes
	69	156.475	156.475	Non-Commercial	Yes	Yes
	70	156.525	-	Non-Commercial	Yes	No
	71	156.575	156.575	Non-Commercial	Yes	Yes
	72	156.625	-	Non-Commercial	Yes	No
	73	156.675	156.675	Port Operations	Yes	Yes
	74	156.725	156.725	Port Operations	Yes	Yes
	75	GUARD CHANNEL				
	76	GUARD CHANNEL				
	77	156.875	-	Commercial	Yes	No
	78	156.925	161.525	International Only	Yes	Yes
	78A	156.925	156.925	Non-Commercial Only	No	Yes
	79	156.975	161.575	International Only	Yes	Yes
	79A	156.975	156.975	Commercial	Yes	Yes
	80	157.025	161.625	International Only	Yes	Yes
	80A	157.025	157.025	Commercial		Yes
	81	157.075	161.675	International Only		Yes
	82	157.125	161.725	International Only		Yes
	83	157.175	161.775	International Only		Yes
	83CG	157.175	157.175	USCG Aux. Only	Yes	Yes
	84	157.225	161.825	Public Corresp.	No	Yes
	85	157.275	161.875	Public Corresp.	No	Yes
	86	157.325	161.925	Public Corresp.	No	Yes
	87	157.375	161.975	Public Corresp.	No	Yes
	88	157.425	162.025	International Only	Yes	Yes
	88A	157.425	-	Commercial	Yes	No
WE_1			162.55	NOAA Weather	Ship Receive Only	Ship Receive Only
	WE_2		162.4	NOAA Weather	"	"
WE_3			162.475	"	"	"
	WE_4		161.650	"	"	"

Check locally for Channels Authorized or used in your Area

USA VHF-FM MARINE RADIOTELEPHONE CHANNELS...by Function

OPERATING CHANNEL DESIGNATORS		FREQUENCY (MHz)		POINTS OF COMMUNICATION	TYPE OF TRAFFIC
ORIGINAL	ADDITIONAL	SHIP TX	COST TX		
DISTRESS, SAFETY AND CALLING					
16		156.8	156.8	Ship/Ship, Ship/Shore	DISTRESS CALLING
INTERSHIP SAFETY					
6		156.3	156.3	Ship/Ship	SAFETY
NAVIGATIONAL BRIDGE TO BRIDGE					
13		156.65	156.65	Ship/Ship, Ship/Shore	Locks, Canals, Pilots, Bridges
ENVIRONMENTAL					
15			156.75	Shore to Ship, Rec Only	Environ., Hydrographic
STATE CONTROL					
17		156.85	156.85	Ship/Shore	RESTRICTED
PORT OPERATIONS					
12		156.6	156.6	Ship/Ship, Ship/Shore	USCG
14		156.7	156.7	"	USCG, Port Auth
20		157.0	161.6	Ship/Shore Only	Port Operations, USA
	65A	156.275	156.275	Ship/Ship, Ship/Shore	"
	66A	156.325	156.325	"	"
	73	156.675	156.675	"	
	74	156.725	156.725	"	"
COMMERCIAL					
7A		156.35	156.35	Ship/Ship, Ship/Shore	Commercial, USA
8		156.4		Ship/Ship Only	"
9		156.45	156.45	Ship/Ship, Ship/Shore	"
10		156.5	156.5	"	"
11		156.55	156.55	"	"
18A		156.9	156.9	"	"
19A		156.95	156.95	"	"
	67	156.375		Ship/Ship Only	Work boats
	77	156.875		"	Commercial, USA
	79A	156.975	156.975	Ship/Ship, Ship/Shore	"
	80A	157.025	157.025	"	"
	88A	157.425		Ship/Ship Only	Fishing Vessels
NON-COMMERCIAL					
9		156.45	156.45	Ship/Ship, Ship/Shore	Clubs, Marinas, Yards, etc
	68	156.425	156.425	Ship/Ship, Ship/Shore	Yachts
	69	156.475	156.475	Ship/Ship, Ship/Shore	Clubs, Marinas, Yards, etc
	70	156.525		Ship/Ship Only	Yachts
	71	156.575	156.575	Ship/Ship, Ship/Shore	Clubs, Marinas, Yards, etc
	72	156.625		Ship/Ship Only	Yachts
	78A	156.925	156.925	Ship/Shore Only	Clubs, Marinas, Yards, etc
	83CG	157.175	157.175	Ship/Ship, Ship/Shore	USCG Aux Only
PUBLIC CORRESPONDENCE					
24		157.2	161.8	Ship/Public Coast	Telephone Corresp
25		157.25	161.85	"	"
26		157.3	161.9	"	"
27		157.35	161.95	"	"
28		157.4	162.0	"	"
	84	157.225	161.825	"	"
	85	157.275	161.875	"	"
	86	157.325	161.925	"	"
	87	157.375	161.975	"	"
NOAA WEATHER SERVICE					
WE_1			162.55	Ship Receive Only	Weather Broadcasts
	WE_2		162.4	"	"
WE_3			162.475	Ship Receive Only	Weather Broadcasts
	WE_4		161.650	"	"

Check locally for Channels Authorized or used in your Area

Battery life: up to 10 hours under normal use

Regulations: FCC part 83 and part 15, Subpart C

INSTALLED CHANNELS AND FREQUENCIES

CHANNEL DESIG.	TRANSMITTER	RECEIVER POSITION OF USA/INT'L SWITCH	
		USA	INT'L.
00		156.000 (MHz)	156.000 (MHz)
01	156.050 (MHz)	156.050 (MHz)	160.650 (MHz)
02	156.100 (MHz)	156.100 (MHz)	160.700 (MHz)
03	156.150 (MHz)	156.150 (MHz)	160.750 (MHz)
04	156.200 (MHz)	156.200 (MHz)	160.800 (MHz)
05	156.250 (MHz)	156.250 (MHz)	160.850 (MHz)
06	156.300 (MHz)	156.300 (MHz)	156.300 (MHz)
07	156.350 (MHz)	156.350 (MHz)	160.950 (MHz)
08	156.400 (MHz)	156.400 (MHz)	156.400 (MHz)
09	156.450 (MHz)	156.450 (MHz)	156.450 (MHz)
10	156.500 (MHz)	156.500 (MHz)	156.500 (MHz)
11	156.550 (MHz)	156.550 (MHz)	156.550 (MHz)
12	156.600 (MHz)	156.600 (MHz)	156.600 (MHz)
13	156.650 (MHz)	156.650 (MHz)	156.650 (MHz)
14	156.700 (MHz)	156.700 (MHz)	156.700 (MHz)
15		156.750 (MHz)	156.750 (MHz)
16	156.800 (MHz)	156.800 (MHz)	156.800 (MHz)
17	156.850 (MHz)	156.850 (MHz)	156.850 (MHz)
18	156.900 (MHz)	156.900 (MHz)	161.500 (MHz)
19	156.950 (MHz)	156.950 (MHz)	161.550 (MHz)
20	157.000 (MHz)	157.000 (MHz)	161.600 (MHz)
21	157.050 (MHz)	157.050 (MHz)	161.650 (MHz)
22	157.100 (MHz)	157.100 (MHz)	161.700 (MHz)
23	157.150 (MHz)	157.150 (MHz)	161.750 (MHz)
24	157.200 (MHz)	161.800 (MHz)	161.800 (MHz)
25	157.250 (MHz)	161.850 (MHz)	161.850 (MHz)
26	157.300 (MHz)	161.900 (MHz)	161.900 (MHz)
27	157.350 (MHz)	161.950 (MHz)	161.950 (MHz)
28	157.400 (MHz)	162.000 (MHz)	162.000 (MHz)
29		157.450 (MHz)	157.450 (MHz)
60	156.025 (MHz)	156.025 (MHz)	160.625 (MHz)
61	156.075 (MHz)	156.075 (MHz)	160.675 (MHz)
62	156.125 (MHz)	156.125 (MHz)	160.725 (MHz)
63	156.175 (MHz)	156.175 (MHz)	160.775 (MHz)
64	156.225 (MHz)	156.225 (MHz)	160.825 (MHz)
65	156.275 (MHz)	156.275 (MHz)	160.875 (MHz)
66	156.325 (MHz)	156.325 (MHz)	160.925 (MHz)
67	156.375 (MHz)	156.375 (MHz)	156.375 (MHz)
68	156.425 (MHz)	156.425 (MHz)	156.425 (MHz)
69	156.475 (MHz)	156.475 (MHz)	156.475 (MHz)
70	156.525 (MHz)	156.525 (MHz)	156.525 (MHz)
71	156.575 (MHz)	156.575 (MHz)	156.575 (MHz)
72	156.625 (MHz)	156.625 (MHz)	156.625 (MHz)
73	156.675 (MHz)	156.675 (MHz)	156.675 (MHz)
74	156.725 (MHz)	156.725 (MHz)	156.725 (MHz)
75		156.775 (MHz)	156.775 (MHz)
76		156.825 (MHz)	156.825 (MHz)
77	156.875 (MHz)	156.875 (MHz)	156.875 (MHz)
78	156.925 (MHz)	156.925 (MHz)	161.525 (MHz)
79	156.975 (MHz)	156.975 (MHz)	161.575 (MHz)
80	157.025 (MHz)	157.025 (MHz)	161.625 (MHz)
81	157.075 (MHz)	157.075 (MHz)	161.675 (MHz)
82	157.125 (MHz)	157.125 (MHz)	161.725 (MHz)
83	157.175 (MHz)	157.175 (MHz)	161.775 (MHz)
84	157.225 (MHz)	161.825 (MHz)	161.825 (MHz)
85	157.275 (MHz)	161.875 (MHz)	161.875 (MHz)
86	157.325 (MHz)	161.925 (MHz)	161.925 (MHz)
87	157.375 (MHz)	161.975 (MHz)	161.975 (MHz)
88	157.425 (MHz)	157.425 (MHz)	162.025 (MHz)
89		157.475 (MHz)	157.475 (MHz)

Weather Channels Installed	
CHANNEL 1 (162.550 MHz) NOAA	Weather (Weather SW On) RECEIVE ONLY
CHANNEL 2 (162.400 MHz) NOAA	Weather (Weather SW On) RECEIVE ONLY
CHANNEL 3 (162.475 MHz) NOAA	Weather (Weather SW On) RECEIVE ONLY
CHANNEL 4 (162.425 MHz) CANADA	Weather (Weather SW On) RECEIVE ONLY
CHANNEL 5 (162.450 MHz) NOAA	Weather (Weather SW On) RECEIVE ONLY
CHANNEL 6 (162.500 MHz) NOAA	Weather (Weather SW On) RECEIVE ONLY
CHANNEL 7 (162.525 MHz) NOAA	Weather (Weather SW On) RECEIVE ONLY
CHANNEL 8 (161.650 MHz) CANADA	Weather (Weather SW On) RECEIVE ONLY
CHANNEL 9 (161.775 MHz) CANADA	Weather (Weather SW On) RECEIVE ONLY
CHANNEL 10 (161.400 MHz) CANADA	Weather (Weather SW On) RECEIVE ONLY

REPLACEMENT PARTS — MT 1000

Symbol No.	Description	Part No.
C220	Condenser 10PF CH	9997-0900-077
C233	Condenser 15PF CH	9997-0900-078
C203	Condenser 22PF CH	9997-1000-055
C204	Condenser 33PF CH	9997-0900-080
C238	Condenser 27PF RH	9997-1000-048
C235	Condenser 27PF CH	9997-1000-049
C253, 268	Condenser 47PF CH	9997-1000-038
C213	Condenser 51PF UJ	9997-1000-056
C108, 109	Condenser 470PF YB	9997-1000-057
C201	Condenser 470PF X6	9997-1000-058
C210, 211	Condenser 10μF/10V	9997-1000-067
C251, 379	Condenser 0.0022μF	9997-0900-100
C368, 375	Condenser 0.01μF	9997-0900-101
C373	Condenser 0.033μF	9997-0900-103
VC202, 207	Trimmer Condenser	9997-1000-050
R107	Resistor 1.5K OHM 1/8	9997-0900-074
R106,···	Resistor 4.7K OHM 1/8	9999-0604-080
R115	Resistor 5.6K OHM 1/8	9999-0604-081
R245	Resistor 10K OHM 1/8	9999-0604-084
R110,···	Resistor 33K OHM 1/8	9999-0604-087
R117,···	Resistor 47K OHM 1/8	9999-0604-088
R118,···	Resistor 100K OHM 1/8	9999-0604-091
R404	Resistor 680K OHM 1/8	9997-1000-072
R309	Resistor 22 OHM 1/8	9997-0900-120
R337	Resistor 47 OHM 1/8	9997-0900-121
R308, 317	Resistor 10 OHM 1/8	9997-1000-073
R242,···	Resistor 100 OHM 1/8	9999-0604-068
R201,···	Resistor 220 OHM 1/8	9999-0604-070
R212,···	Resistor 330 OHM 1/8	9997-0900-123
R237,···	Resistor 1K OHM 1/8	9997-0900-072
R228	Resistor 1.5K OHM 1/8	9997-0900-074
R225	Resistor 2.2K OHM 1/8	9997-0900-076
R238,···	Resistor 5.6K OHM 1/8	9999-0604-081
R306,···	Resistor 6.8K OHM 1/8	9999-0604-082
R208,···	Resistor 10K OHM 1/8	9999-0604-084
R329	Resistor 15K OHM 1/8	9999-0604-085
R243	Resistor 47K OHM 1/8	9999-0604-088

Symbol No.	Description	Part No.
R241	Resistor 100K OHM 1/8	9999-0604-091
R257	Resistor 220K OHM 1/8	9999-0604-092
R222	Resistor 330K OHM 1/8	9999-0604-093
R321,···	Resistor 100 OHM 1/8	9999-0604-068
R217	Resistor 150 OHM 1/8	9999-0604-097
R335	Resistor 220 OHM 1/8	9999-0604-070
R310	Resistor 330 OHM 1/8	9997-0900-123
R236,···	Resistor 470 OHM 1/8	9999-0604-071
R207	Resistor 680 OHM 1/8	9997-1000-070
R232	Resistor 820 OHM 1/8	9997-1000-071
R332	Resistor 1K OHM 1/8	9997-0900-072
R327,···	Resistor 1.5K OHM 1/8	9997-0900-074
R206	Resistor 1.8K OHM 1/8	9999-0604-075
R323	Resistor 2.2K OHM 1/8	9997-0900-076
R214	Resistor 3.3K OHM 1/8	9999-0604-076
R226,···	Resistor 4.7K OHM 1/8	9999-0604-080
R341	Resistor 5.6K OHM 1/8	9999-0604-081
R304,···	Resistor 10K OHM 1/8	9999-0604-084
R218,···	Resistor 22K OHM 1/8	9997-0900-124
R251,···	Resistor 33K OHM 1/8	9999-0604-087
R210,···	Resistor 47K OHM 1/8	9999-0604-088
R241	Resistor 100K OHM 1/8	9999-0604-091
R223	Resistor 120K OHM 1/8	9997-0900-126
R227	Resistor 150K OHM 1/8	9999-0604-104
R324	Resistor 220K OHM 1/8	9999-0604-092
R331	Resistor 330K OHM 1/8	9999-0604-093
L202, 207	Choke Coil 1μH	9997-0900-060
L206	Choke Coil 0.6μH	9997-0900-196
L203	Choke Coil 470μH	9997-0900-062
L302, L304	Coil 4T	9997-0900-063
L305	Choke Coil 5T	9997-0900-064
L303	Choke Coil 1μH	9997-0900-060
L204	Choke Coil 10μH	9997-0900-061
L205	Choke Coil 470μH	9997-0900-062
L101, 102,···	Choke Coil 6.8μH	9997-1000-047
T201	Transformer	9997-1000-039
T202	Transformer	9997-1000-040

REPLACEMENT PARTS — MT 1000

Symbol No.	Description	Part No.
T203, 205	Transformer	9997-1000-041
T302	Transformer	9997-0900-048
T301	Transformer	9997-0900-049
T308	Transformer	9997-0900-051
T204, T206	Transformer	9997-1000-042
T304	Transformer	9997-1000-043
T305	Transformer	9997-1000-035
T306	Transformer	9997-1000-036
T307	Transformer	9997-1000-037
T303	Transformer	9997-1000-038
X302	X'tal Filter 16M13B	9997-1000-030
X301	X'tal 16.445MHZ	9997-1000-028
X201	X'tal 7.2MHZ	9997-1000-026
X202	X'tal 65.1MHZ	9997-1000-027
VR301	Rheostat 100KΩ	9997-0900-116
V201, 202	Rheostat 1K OHM	9997-0900-115
X303	Ceramic Filter KBF-455R-15A	9997-1000-031

Mechanical Parts	Part No.
Battery CR-2032-P	9997-1000-002
Piezo Buzzer	9997-1000-003
Slide SW	9997-1000-075
Mini Lamp	9997-1000-080
Lamp Holder	9997-1000-081
16P Wire Ass'y	9997-1000-086
Coax Pin Plug Ass'y	9997-1000-111
Coax Pin Plug Ass'y	9997-1000-112
Mini-Pin Jack	9997-1000-095
Connector 2P L	9997-1000-097
Connector 3P L	9997-1000-098
Connector 4P L	9997-1000-099
Connector 8P L	9997-1000-100
Connector 4P M	9997-1000-101

Mechanical Parts	Part No.
Test Point	9997-0900-190
Jumper	9997-1000-088
Lead Wire	9997-1000-090
Chassis	9997-1000-127
Front Case	9997-1000-140
Rear Case (A)	9997-1000-141
Rear Case (B)	9997-1000-142
Battery Case	9997-1000-143
Head Panel	9997-1000-145
LCD Case	9997-1000-144
PTT Knob	9997-1000-136
Rotary Knob	9997-0900-199
VR Knob	9997-0900-161
Push Knob	9997-1000-137
Slide SW Knob	9997-1000-138
Rubber Switch	9997-1000-135
Heat Sink	9997-1000-126
Jack Plate	9997-1000-130
Micro Switch	9997-0900-134
Ø40 Speaker	9997-0900-140
LCD Panel	9997-1000-146
Inter Connector	9997-1000-102
MIC Unit	MA-250
Slide Switch	9997-1000-078
Rheostat (SW) 10K (A)	9997-0900-130
Rheostat 10K (B)	9997-0900-131
Rotary Switch	9997-0900-133
Ø2.5 Jack	9997-1000-093
Ø3.5 St Jack	9997-1000-094
DC Power Jack	9997-0900-178
BNC Connector	9997-0900-170
Rotary Circuit	9997-1000-132
Circuit Screw (A)	9997-1000-115
Circuit Screw (B)	9997-1000-116
Name Plate	9997-1000-150
Serial Name Plate	9997-1000-151
Key Board Name Plate	9997-1000-134
Reflect Plate	9997-1000-129

REPLACEMENT PARTS — MT 1000

Mechanical Parts	Part No.
Jack Cap	9997-1000-128
PWR Cap	9997-0900-201
Screen	9997-1000-155
Screen	9997-1000-156
Screen	9997-1000-157
Cushion	9997-1000-158
Shield Case	9997-0900-213
Terminal	9997-1000-091
∅2 Lug Washer	9997-1000-092
Wire Set	9997-1000-084
2P Connector Ass'y	9997-1000-107
3P Connector Ass'y	9997-1000-108
4P Connector Ass'y	9997-1000-109
6P Connector Ass'y	9997-1000-110
Condenser 22 PF	9997-1000-059
Cramp Rubber	9997-1000-133
Reset SW Label	9997-1000-159
Cushion	9997-1000-173
M1.2×10 Screw (−) Cylinder Head	9997-0900-234
M2×4 Screw (+) Pan Head	9997-0900-238
M2×4 Screw (−) Cylinder Head	9997-1000-117
M2×5 Screw (+) Tapping	9997-1000-118
M2×6 Screw (+) Pan Head	9997-1000-119
M2.3×4 Screw (+) Pan Head	9997-1000-120
M2.3×5 Screw (+) Pan Head	9997-1000-121
M2.3×8 Screw (+) Oval Head	9997-1000-122
M2.6×2 Screw Set Cup Point	9997-0900-243
M2.6×4 Screw (+) Pan Head	9997-1000-123
M2.6×8 Screw (+) Oval Head	9997-0900-241
M2.6×8 Screw (+) Bind Head	9997-1000-124
M3×6 Screw (+) SPW Pan Head	9997-0900-242
M1.2 Hexagon Nut	9997-0900-231
M2 Hexagon Nut	9997-0900-232
M2.6 Spring Lock Washer	9997-1000-174
Sealing	9997-0900-154
Serial Sealing	9997-1000-152

Mechanical Parts		Part No.
Helical Antenna		MA 252
Belt Clip		MA 253
Earphone		MA 249
PVC Case		MA 251
Battery Pack		MA 258
Battery Label		9997-1000-153
Class 2 Transformer		MA 254
Class 2 Transformer	Name Plate	9997-0900-244
Instruction Manual		7001-1360-400
FCC Form 506		9997-0900-246
SS BLT 1007		9997-0900-247
FCC Form 753A		9997-0900-248
Certification Card		9997-1000-154
Polyethylene Bag		9997-0900-250
Polyethylene Bag		9997-0900-259
Polyethylene Bag		9997-1000-160
Polyethylene Bag		9997-1000-161
Packing (A)		9997-0900-252
Packing (B)		9997-0900-253
Packing (B)		9997-0900-256
Carton		9997-1000-162
Carton		9997-0900-259
AC Battery Single Unit Charger		MA 256
DC Adaptor Cig Litr Plug		MA 257
Slide SW		9997-1000-076
Push SW		9997-1000-077
Shield Case		9997-1000-130
Shield Plate		9997-1000-131
Jumper		9997-1000-089
Test Point		9997-0900-190
Wire Ass'y		9997-1000-087
Connector		9997-1000-096
Connector Ass'y		9997-1000-106
Isolation Sheet		9997-1000-166
Ad		9997-1000-167
Cushion		9997-1000-172
Shield Plate		9997-1000-147
Shield Panel		9997-1000-148

REGENCY POLARIS
NINETY DAY LIMITED WARRANTY

1. The Regency Polaris MT1000, is warranted to the original or subsequent purchasers to be free of defects in material and workmanship for a period of ninety (90) days from the date of purchase as shown on the original consumer purchaser's receipt.
2. Warranty service will be provided free of charge if the unit is delivered to a Regency Polaris authorized service station accompanied by original consumer proof of purchase. Any transportation, removal or reinstallation charges will be paid by the purchaser whenever incurred in connection with this warranty. In absence of proof of purchase receipt the warranty period shall be ninety (90) days from the date of manufacture as indicated by serial number on unit. Purchaser need not return the registration card to obtain warranty service.
3. The warranty does not apply to units subject to misuse, neglect, accidents, incorrect wiring not our own, improper installation, or units used in violation of the instructions furnished by us. This warranty excludes any incidental and consequential damages connected with failure or defect in the product.
4. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Regency® **ELECTRONICS, INC.**
7707 Records St., Indianapolis, IN 46226

7001-1360-400

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